Forest Pest Management

Pacific Southwest Region

Lat 39.12767 Lon -120.66850

September 8, 2000
File Code: 3420

To: District Ranger, Foresthill RD, Tahoe NF
Subject: Deadwood fire (NE00 -18)

At the request of Gail Parn and Tony Rodarte, I conducted a field evaluation of the Deadwood fire on September 6, 2000. The objective of my visit was to examine various areas within the fire, and based on my observations, provide some projections regarding the role bark beetles are likely to play in the fire damaged areas.

Background Information

The fire started on August 16, 1999 and burned about 95 acres, of which approximately 92 are on National Forest System lands. The burned area is located along Deadwood Ridge between about 4,400 to 4,800 feet in elevation (see attached map). Over 80% of the area burned with moderate to high fire intensity. There are a few areas of unburned and lightly burned vegetation within the fire perimeter.

Vegetation can be described as mixed conifer including sugar pine, ponderosa pine, incense cedar and white fir. The understory was mainly white fir and incense cedar and was very dense in some areas. The main hardwood species are oaks, primarily black oak, with deer brush, manzanita, shrub tanoak and bear clover comprising the shrub component. A portion of a ponderosa pine plantation (18 acres) was within the fire perimeter. Three identified rust resistant sugar pines (RRSP) were also within the burned area.

The Deadwood fire encompassed three stands and portion of three additional stands that were analyzed under the Codfish Environmental Assessment signed on June 19, 2000. As a result, the fire District personnel are conducting a new analysis to reconsider the proposed treatment of the Codfish stands and other areas impacted by the fire. It is the intent of the Ranger District to harvest most of the dead and dying trees and plant a diverse mixture of conifer species.

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Field Observations

My observations during the field visit indicated very little bark beetle activity within the three weeks following the burn. I did observe some current woodborer activity in burned trees and some current mountain pine beetle attacks on sugar pine trees outside of the burn. The bark beetle species of concern that could contribute to additional mortality in this area are:

Host	Beetles	Typical flight period
Ponderosa pine	Western pine beetle	May - September
Sugar pine	Mountain pine beetle	June - September
White fir	Fir engraver	July - August
Incense cedar	Woodborers	May - August

Based on my observations I do not expect additional mortality next year as a result of bark beetle attacks for any conifer species except sugar pine. As I mentioned above, there is current (this summer) mountain pine beetle activity in the immediate area and based on observations following the recent Screwauger underburn (see FPM Evaluation NE00-14, dated July 17, 2000) I do anticipate some additional mortality of fire injured sugar pines as mountain pine beetles tend to be attracted to wounded trees. **The District may want to consider applying for Forest Pest Management prevention/suppression funding for a project that would involve a chemical treatment to protect the three indentified RRSP from mountain pine beetle attack next year**. The treatment would need to be applied prior to beetle flight as soon as the trees are accessible in the spring of 2001. The District may also want to consider thinning around other RRSP trees on the District to remove fuel ladders, increase growth and vigor, and lower the susceptibility to mountain pine beetle attacks.

Woodborer activity is to be expected in areas of the cambium that have been damaged by the fire. The presence of frass in the bark cracks and crevices on the bole is a sign of woodborer activity. Some level of red turpentine beetle activity should also be anticipated in the pine species next spring. Over the past three years elevated levels of red turpentine beetle activity have been noted in several areas in northeastern California. All cases have been associated with wildfires, prescribed fires or thinning activities. To date, these attacks have not caused elevated levels of mortality. In the prescribed fires and wildfires, post-fire mortality has been observed, but was caused by fire-related injuries (primarily cambium kill) as opposed to bark beetle attacks. Based on observations following other fires and the moist winter precipitation pattern over the past three years, I would not anticipate any mortality related to the red turpentine beetle attacks.

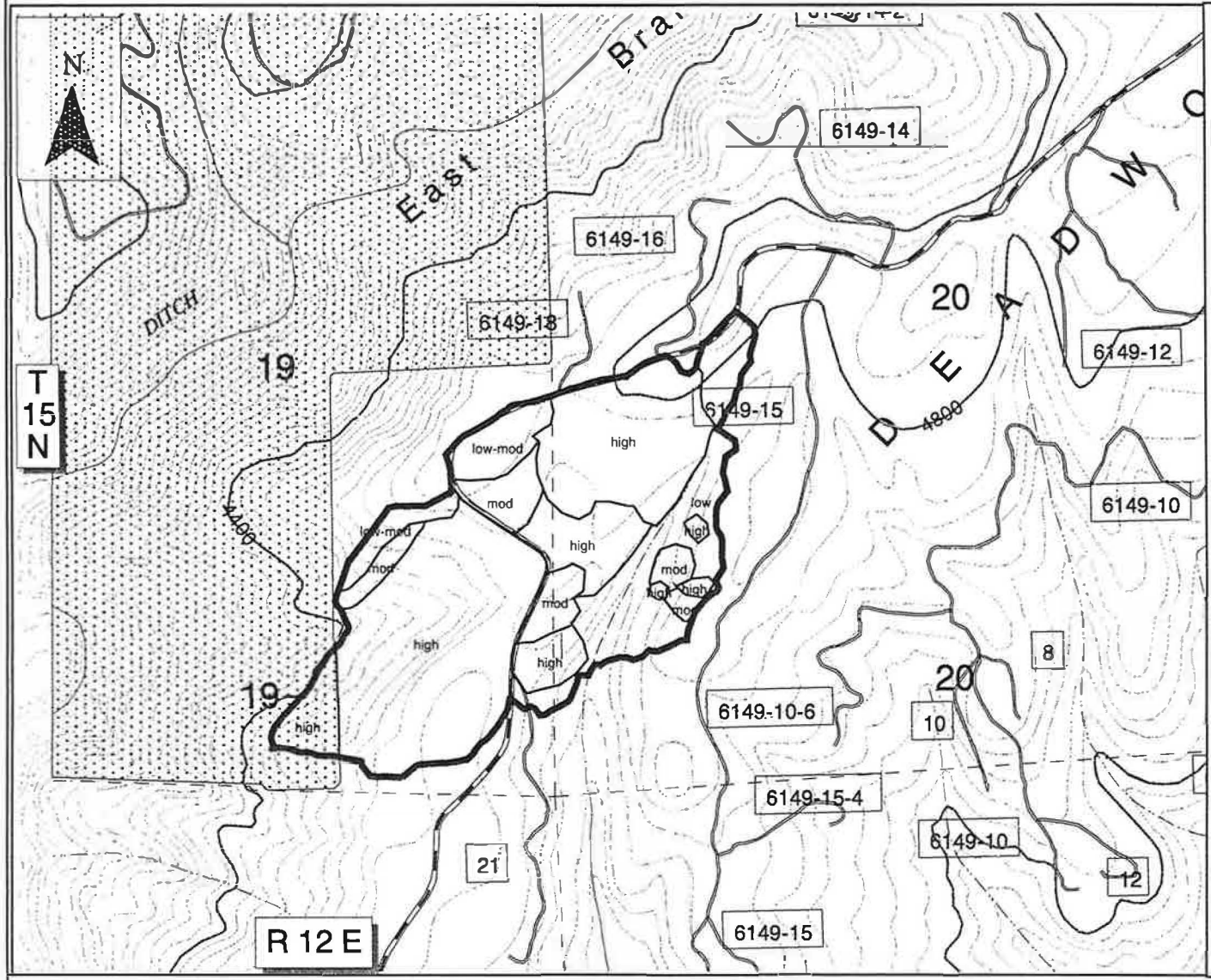
The presence of woodborer frass on the boles, and galleries under the bark, was noted on several of the fire killed trees. There are a number of species of flatheaded (family Buprestidae) and roundheaded borers (family Cerambycidae) that mine in the sapwood, and in some cases, in the heartwood, of dead and dying trees. Attacks initially occur within the first few years after a fire, but can continue for 4 or 5 years, as long as the wood remains sound. The damage to the sapwood and heartwood from these insects, along with fungal deterioration, can be a factor in determining the limit of practical salvage in an area. At this time, woodborers would not be expected to cause any concerns with the trees that survived the fire unless their extent exceeds about 1/3 of the circumference of the bole on individual trees. Their presence may become more important if we experience a dry winter and the fire-injured trees remain stressed.

Insects that bore into the sapwood and cause degradation also include the ambrosia or pinhole borers. The defect caused by this beetle consists of small holes surrounded by a dark stain.

If you would like some assistance with fire-related marking guidelines or have any questions concerning this evaluation please contact me at 530-252-6667.

Sheri Lee Smith
Supervisory Entomologist
Forest Pest Management
NE CA Shared Service Area

Deadwood Burn - Aug. 16, 2000 - 95 acres
Foresthill R.D. - Tahoe N.F.



LEGEND

- Burn Perimeter (gps)
- Private Lands
- 40ft. Contour Interval

Roads:

- DIRT
- IMPROVED

Streams:

- Intermittent
- Perennial

high — Vegetation Mortality

TNF GIS - A. Doerr - 8/22/00

Scale: 1:12000 1"=1,000'

2000 0 2000 4000 Feet